

ON THE QUESTION OF THE CORRECT SCIENTIFIC NAME  
 FOR THE ECHINODERM FOSSIL FROM THE LIMBURG  
 CRETACEOUS (MAESTRICHIAN) COMMONLY KNOWN  
 AS THE "SPATANGUE DE MAESTRICH" (CLASS  
 ECHINOIDEA, ORDER SPATANGOIDEA)

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In a paper entitled "Over de variatie van *Hemipneustes striatoradiatus* (Leske)" published in 1945 (*Verhandl. Geol.-Mijnbouwk. Genootsch. Nederland en Kolon.* (Geol. Ser.) **14**: 173-182) I discussed the status of the name of the common and well known fossil sea-urchin from the Limburg Cretaceous (Maestrichtian) so aptly designated by the French as "Spatangue de Maestricht". My conclusion was that the modern use by palaeontologists for this species of the generic name *Spatagooides* was incorrect under the *Règles*, as also was the use of the specific trivial name *radiatus*. The first name published for this species was *Spatangus striatoradiatus* Leske, 1778; the oldest generic name available for this species according to current taxonomic ideas was *Hemipneustes* Agassiz, 1836; the correct name for this species was therefore *Hemipneustes striatoradiatus* (Leske, 1778).

The generic name *Hemipneustes* Agassiz, 1836, was in general use for this species until Lambert & Thiéry (*Essai de Nomenclature raisonnée des Echinides*, (fasc. 6/7) : 411) substituted for it the name *Spatagooides* Klein, 1778. Lambert remarks in his "Révision des Echinides fossiles de la Catalogne" (1927, *Mem. Mus. Cienc. nat. Barcelona* (Ser. Geol.) **1** : 42) that the name *Spatagooides* was adopted by Bayle as far back as 1878 (*Explic. Carte géol. France* **4** (Atlas)), while he himself had given in 1917 the arguments in favour of the use of this name in place of *Hemipneustes* in his "Note sur quelques Holasteridae" (*Bull. Soc. Sci. hist. nat. Yonne* **70** : 196). The last mentioned publications are not available to me but the grounds on which Lambert based his conclusions are quite clear from the statements made in the paper which he published in 1924 (*loc. cit.*) jointly with Thiéry. The argument was: (1) that Klein in his *Naturalis Dispositio Echinodermatum* published in 1734 used (: 35) the generic name *Spatagooides* for a species which he called *Spatagooides andersonii* and which he figured on his plate XXV from a specimen of the "Spatangue de Maestricht" from Bemelen near Maestricht collected in 1715; (2) that Leske in 1778 conferred availability as from that date on Klein's names by republishing that author's *Naturalis Dispositio*. It is quite clear that in this new edition Leske did not reinforce Klein's names "by adoption and acceptance" (*Opinion* 5) and therefore that the republication of these names in this way did not confer any availability on them under the *Règles*; I do not consider it necessary to argue this point in detail, for it was fully considered by the International Commission on Zoological Nomenclature in 1948 in connection with

the generic name *Arachnoides*, another of Klein's 1734 names which it was desired to make available as from Leske, 1778. The Commission then took the view that, in order to secure this end, it was necessary for it to use its plenary powers expressly to validate the name *Arachnoides*, its publication in 1778 in Leske's reprint of Klein's work having conferred no availability upon it (1950, *Bull. zool. Nomencl.* 4 : 530-536).

The position is therefore that, under the *Règles* the name *Spatagoïdes*, originally of Klein, 1734, acquired no availability in virtue of the republication by Leske in 1778 of Klein's *Naturalis Dispositio*. Among the synonyms quoted by Lambert & Thiéry (1924 : 411) is the alleged generic name *Spatangoida* attributed by those authors to Gmelin, 1789 (*in Linnaeus, Syst. Nat.* (ed. 13) 1 : 3197); but this term was used by Gmelin only to indicate that it had been employed by Klein for the group of species dealt with on page 3197. This term was not "reinforced" by Gmelin "by adoption or acceptance" (*Opinion* 5) and accordingly acquired no availability by reason of having been republished in this way. It therefore has no existence as a generic name. The next name to be considered is *Hemipneustes* Agassiz, 1836 (*Mém. Soc. Sci. nat. Neuchâtel* 1 : 183); this is a validly published name, the nominal genus so named having, as its type species by monotypy, the nominal species *Hemipneustes radiatus*; this name was not published by Agassiz as a new name but was attributed by him to Lamarck, by whom the trivial name *radiatus* had been employed in the binomial combination *Spatangus radiatus* (1816, *Anim. sans Vertébr.* 3 : 33). When however we turn to Lamarck, we find that he in turn was not the author of the trivial name *radiatus*, which he attributed to Gmelin, by whom it was published in the binomial combination *Echinus radiatus* (Gmelin, 1790, *in Linnaeus, Syst. Nat.* (ed. 13) 1 : 3174). Finally, we find that Gmelin himself did not regard the trivial name *radiatus* as a new name but merely as an emendation of the name *striatoradiatus* as published by Leske in 1778 in the binomial combination *Spatangus striatoradiatus* (Leske, 1778, *Addit. Klein. nat. Disp. Ech.* : 234) (also on page 170 in the edition which does not include the reprint of Klein). The species so named by Leske, and therefore also the species referred to by Agassiz in 1836 under the name *Hemipneustes radiatus*, is the "Spatangue de Maestricht". As the foregoing was the sole species referred by Agassiz to the genus *Hemipneustes*, it is the type species of that genus by monotypy. The generic name *Hemipneustes* Agassiz, 1836, is the oldest available generic name for the "Spatangue de Maestricht", for that species is not congeneric with the species which is the type species of the genus *Echinus* Linnaeus, 1758, to which it was referred by Gmelin in 1790, while the International Commission has, under its plenary powers, suppressed all uses of the generic name *Spatangus* prior to Gray, 1825, in order to validate the name *Spatangus* Gray, 1825, with type species *Spatangus purpureus* Müller (O. F.), 1776, a species not congeneric with the "Spatangue de Maestricht" (1950, *Bull. zool. Nomencl.* 4 : 522-530). We arrive therefore at the conclusion that, on the basis of current taxonomic ideas, the correct generic name for the species under consideration is *Hemipneustes* Agassiz, 1836.

As regards the trivial name applicable to this species, we have already seen that in 1778 Leske gave it the name *striatoradiatus* (*in the binomial combination Spatangus striatoradiatus*) and that in 1790 Gmelin, who referred

this species to the genus *Echinus* Linnaeus, emended the trivial name given to this species by Leske by shortening it to the form *radiatus*. Goldfuss (G. A.) (1829, *Petref. German.* 1 (2) : 150) cites a number of authors under the name *Spatangus radiatus*, but of the references so given one only is prior to the publication in 1778 of the name *Spatangus striatoradiatus*. This reference was cited by Goldfuss as "Knorr, Petref. tab. E IV n. 41"). This is clearly a reference to the work entitled "Die Naturgeschichte der Versteinerungen zur Erläuterung der Knorrischen Sammlung von Merkwürdigkeiten der Natur" by Walch, J. E. I. In volume 2 of the above work there is a description on page 182 of the specimen figured on Plate E IV figs. 1 & 2, but neither on the plate where the number 41 (cited by Goldfuss) refers to four figures (figs. 1-4, of which only figs. 1 & 2 represent the "Spatangue de Maestricht") nor in the text (on page 182) nor on page 28 of Part IV (where a *Systema* is given) is there any trace of the name *Echinocerus scutatus*, alleged by Goldfuss to have been used by "Knorr," i.e., by Walch, for the species under consideration. On the contrary, the specimen figured as figs. 1 & 2 on pl. E IV, which was collected in Maestricht, was cited by Walch under the name *Spatangus*. The only name cited by Walch (but not accepted by him) is from Klein: "Spatagoïdes quaternis radiis, andersonii." We see therefore that Leske was the first author to apply a trivial name to the "Spatangue de Maestricht."

In the light of the data given above, we find that the oldest available name for the foregoing species is *Spatangus striatoradiatus* Leske, 1778, that the oldest available generic name for this species is, according to current taxonomic ideas, the name *Hemipneustes* Agassiz, 1836, and therefore that, on the basis of those taxonomic ideas, the correct name, under the *Règles*, for this species is *Hemipneustes striatoradiatus* (Leske, 1778). In view of the misunderstanding and confusion in this matter created by the action by Lambert & Thiéry, it is desirable that these names should now be stabilised by being placed on the *Official Lists* established respectively for generic names and for specific trivial names. The request which I accordingly submit is that the International Commission on Zoological Nomenclature should:—

- (1) place on the *Official List of Generic Names in Zoology* the generic name *Hemipneustes* Agassiz, 1836 (gender of generic name: feminine) (type species, by monotypy: *Echinus radiatus* Gmelin, 1790);
- (2) place on the *Official Index of Rejected and Invalid Generic Names in Zoology* the under-mentioned reputed but non-existent generic names:—
  - (a) *Spatagoïdes* Klein, 1778, *Nat. Disp. Ech.* (Leske's ed.);
  - (b) *Spatagoïdes* Leske, 1778, *Add. Klein, Nat. Disp. Ech.* : 9, 156, 175, 176;
  - (c) *Spatangoïda* Gmelin, 1789, in Linnaeus, *Syst. Nat.* (ed. 13) 1 : 3197;
- (3) place on the *Official List of Specific Trivial Names in Zoology* the trivial name *striatoradiatus* Leske, 1778 (as published in the binominal combination *Spatangus striatoradiatus*);

(4) place on the *Official Index of Rejected and Invalid Specific Trivial Names in Zoology* the under-mentioned invalid or reputed but non-existent specific trivial names :—

- (a) *radiatus* Gmelin, 1790 (as published in the binominal combination *Echinus radiatus*) (an invalid name, being an invalid emendation of the trivial name *striatoradiatus* Leske, 1778 (as published in the binominal combination *Spatangus striatoradiatus*)) ;
- (b) *scutatus* Knorr, 1768 (in the binominal combination *Echinocerus scutatus*) (a reputed but non-existent name).

**Postscript (dated 9th September, 1950) :** The present application was originally submitted in April 1946 at a time when the Commission had not given any ruling on the availability of generic names originally published by Klein in 1734 on their being republished in 1778 in Leske's post-1757 edition of Klein's *Naturalis Dispositio Echinodermatum*. In the application, as then submitted, I accordingly set out in detail the grounds on which I asked the Commission to give a ruling that in the foregoing re-issue of Klein's work Leske had not complied with the requirements specified in *Opinion 5* and therefore that Klein's names acquired no availability in virtue of being so republished by Leske. I have since revised this application, in view of the fact that this question was the subject of a ruling (in the case of the alleged name *Arachnoides* Klein or Leske, 1778) by the Commission at its Session held in Paris in 1948<sup>1</sup>. At the same time I have redrafted the form of the application submitted to the Commission, in order to take account of the decisions taken by the Thirteenth International Congress of Zoology to establish both an *Official List of Specific Trivial Names in Zoology* and also an *Official Index of Rejected and Invalid Generic Names* and a corresponding *Official Index* for similar specific trivial names.

<sup>1</sup> See 1950, *Bull. zool. Nomencl.* 4: 533